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Fig. 1.  
p. 183.

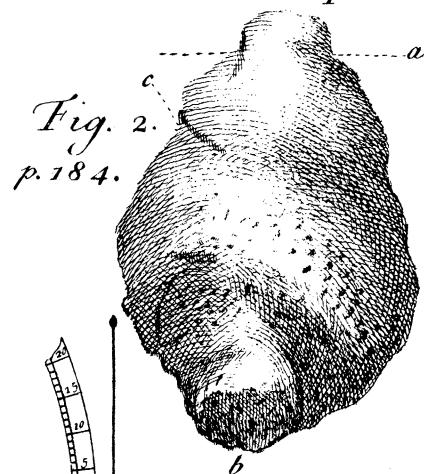


Fig. 2.  
p. 184.

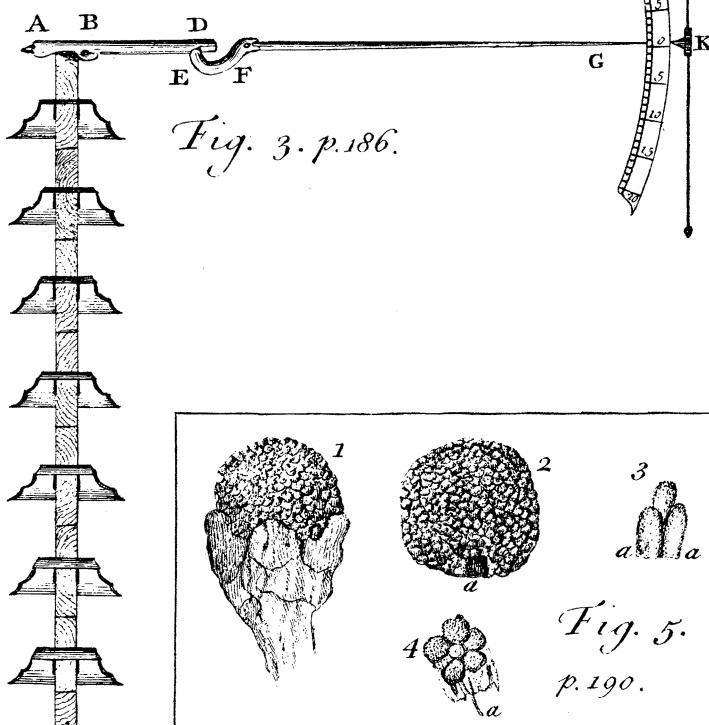


Fig. 3. p. 186.

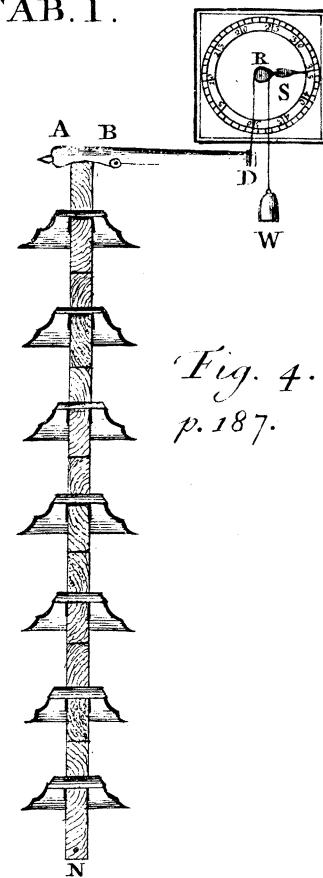


Fig. 4.  
p. 187.

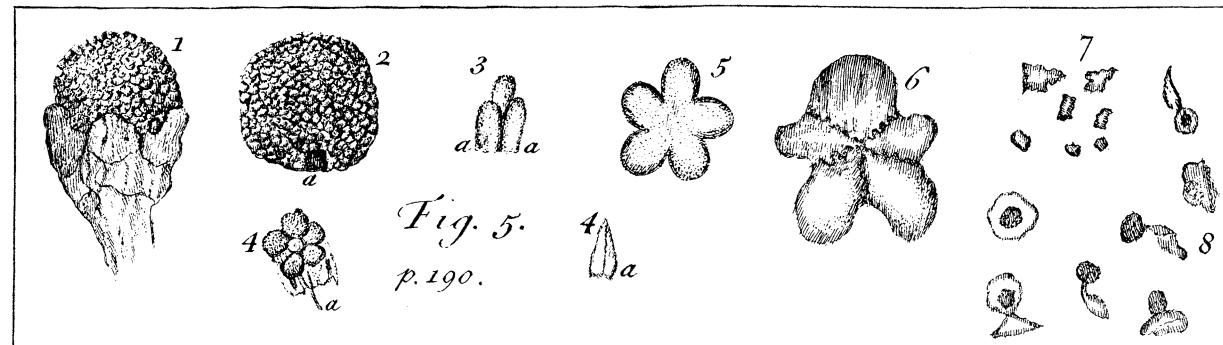


Fig. 5.  
p. 190.

I. *An Observation of an Operation made by the high Apparatus, according to M. le Cat's Method, in the Year 1743; by Claud. Nic. le Cat, M. D. F.R. S. Surgeon to the Hotel Dieu at Rouen, and Royal Demonstrator in Anatomy and Surgery; translated from the French by Philip Henry Zollman, F. R. S.*

*Read May 1. 1746.*

**I**HAVE given to the \* *Royal Society* a Description of a particular Method of making the high *Apparatus*, and have proved its Theory, by a Cure happily performed in practising it. — The Spring of the Year 1743 furnished me with a new Opportunity of confirming the Goodness of this Method; which, by certain Circumstances, was put to such a Trial, that I question whether the Stone could have been taken out by any other Manner of Cutting. For this Reason I have thought this Observation deserved a Place, as a Supplement to the Account which I have presented to the *Society* concerning this Method.

*Joseph Bunel, of 12 Years of Age, a Native of la Bucaille, and living at Vitry near Andely, was afflicted with the Stone for 8 or 9 Years past.*

*Friday the 17th of May 1743, being the Day appointed to cut him, I prepared myself to do it by the*

\* See these *Transf.* N°. 476, p. 391.

the lateral *Apparatus*, which is the common Method. At 5 o'Clock in the Morning the Patient was placed in the usual Manner for the Operation ; and I, endeavouring to enter the Probe, in order to cut him laterally, found the Stone so big, or at least so far advanced in the Neck of the Bladder, that I had all the Trouble in the World to make the Instrument enter ; nor could I effect it, otherwise than by thrusting it quite on the Side. I put my Finger into the *Anus*, and was convinced of the Reality of the Circumstances which the Probe had made appear : I immediately thought that the Situation of this Stone in the Neck of the Bladder would hinder me from bringing the Instruments freely to it ; that, as this hard Body seem'd exactly to fill the Bladder, it would be impossible to introduce a Pair of Pincers between it and the Insides of the Bladder ; that, its Bulk being too considerable, would cause a mortal Laceration by the low *Apparatus* ; and, lastly, that the Patient was in such a Case of Necessity, as required to have recourse to the high *Apparatus*.

Not having suspected all these particular Circumstances, and not being much inclined to make an Operation in Town, which I had as yet made but once, I had not brought my Instruments with me for cutting by the high *Apparatus* ; but, seeing it would be a Rashness in this Case, to perform the lateral Operation, and not to prefer the high *Apparatus* to it, contrary to all my Experiments and Principles, I put off the Operation to the next Day, and sent to *Rouen* for my Instruments for cutting by the high *Apparatus*.

That

That Day at Noon I gave the Patient a very light Soup.

*Saturday* the 18th, I cut him by the high *Apparatus* at 8 in the Morning. The Surgeon who was gone to fetch the Instruments, brought Mr. *Graffe*, a Surgeon from *Dublin*, with him, who was come to *Rouen*, on the Part of Messieurs *Morand* and *Verdier*, to see my Way of Cutting ; and I had 10 or 12 young Surgeons with me who were come from *Rouen*.

The Patient was placed upon one of those little Beds which the Turners make for the Country People ; the two Extremities of the Bed were rais'd, especially that which was to support the Thighs, and the Middle was hollow ; the Whole covered with *Alaizes*\*.

The Patient's Head was towards the Light ; his Hands and Feet were tied across the Bed, in the Places where they came to lie, when the Patient was laid on his Back ; his Legs were stretch'd and open ; his Arms brought down below his Hips ; in a Word, he was in a very convenient Posture. I was on the right Side of the Patient.

In this Manner I thrusted an *Algalie* (or hollow *Catheter*) into the Bladder, introducing it on the Side, as I had done the Day before. I injected a Syringe-full of lukewarm Water into the Bladder ; which occasion'd a Protuberance not immediately above the *Pubis*, but three or four Fingers Breadth higher ;

\* These are Cloths folded several times, and laid under the Patients, to keep them cleanly.

higher; which plainly proved, that the Stone took up the whole exterior and inferior Region of the Bladder.

I opened the Teguments, and thrusted my Instrument into the Bladder close to the *Pubis*; but, finding there only one Membrane, and the Stone, I was obliged to bring the Edge of my Knife upwards, and then the Instrument really enter'd, and Abundance of Water and Urine came forth.

I turn'd again my Instrument, to support the Bladder with the projecting Part, which is on the Back of it \*. I slipt over it the strait *Suspensor* (a *Catheter* that opens with a Bow), and dilated the Bladder with the Incision Knife, towards the *Pubis*, and introduced the lateral *Suspensors*: I put my Finger into the Bladder, and, having felt a Stone which was above the first, I pull'd out this upper Stone with the *Forceps*, which broke between the lateral *Suspensors*. I put my Finger in again, and felt another; which I took hold of, and pull'd out, taking it for a third Stone, though it was but a Fragment of the first, which had escaped the *Forceps*.

This Fragment being taken out, I put my Finger in again, and felt distinctly that the Bladder was parted into two Chambers, like a Gourd. In the upper hindermost Chamber, which I had open'd, the Injection was lodg'd, and the Stone which I had taken out. In the nethermost Chamber I felt the great Stone, which went as far as the Neck of the Bladder, the Top of which was surrounded by the Bladder like a Neck,

\* See the Figures in the preceding Account, *Trans.* N<sup>o</sup>. 476.

Neck, the Opening of which did not admit more than the Tip of one's Finger, with which I felt that the Partitions of the Bladder were closely united, and adhered to the Surface of this Stone.

These melancholy Discoveries made me very uneasy ; this particular Structure of the Side of the Bottom of the Bladder making me sensible of the same Impossibility of introducing my Instruments, which I had met with towards the *Perinaeum*. I try'd to thrust my Finger by Force between the Stone and the Bladder, by setting the Nail strongly against the Stone, and loosening the Bladder from it, which seem'd to adhere to it, dilating at the same time the Bladder with all the Force my Finger was capable of. I at last introduced my Finger to a certain Length, with which I loosened the adherent Parts from the Stone all along as far as my Finger could reach ; then I try'd to pass in my *Forceps*, afterwards my different Scoops, but all in vain. I was for an Instant believing that I could not get it out. This frightful Idea made me redouble my Endeavours.

I begun to dilate again with the Forefinger of my left Hand, and, with the same Finger, and the Thumb of my right Hand in the *Anus*, I violently thrust the Stone upwards towards the Belly, after a long and painful Labour, both for the Patient and the Operator. I introduced upon my Finger, which was between the Stone and the Bladder, the small Scoop of my double Crochet (see Fig. II. TAB. IV. *Trans.* 476.): I advanced it quite beyond the Stone, and then I began to pull, having wrapp'd some Linen round the Instrument which hurt me ; but the *Pubis*, under which the Stone was, caused an Obstacle, not

to be overcome. I therefore ordered an Assistant to push through the *Anus* the Stone towards the Belly; and I, on my Side, having discover'd the End of the Stone under the *Pubis*, put in the Fore-finger of my right Hand, and pres'd as hard as possible the Stone with it towards the Spoon, which, at the same time, I strongly pull'd with my left Hand. These three Forces being united, made the Stone at last give Way, and brought it forth to the Joy of the Spectators, as well as the Patient. The upper Side of the Stone, that is to say, that which answer'd to the *Pubis*, was pretty even, and seem'd to give a Passage to the Urine; the nether or hindmost Side, which lay towards the Prostates and the Entrance of the Bladder, kept the Shape of these Parts; its Substance was crumbling, of a reddish Colour, and like the Membrane of the Bladder, having a fungous Poile on it (see the *Figures*, TAB. I. of this *Transaction*), with which it seem'd to have been incorporated, and of which a sort of Covering yet remain'd upon its Surface; this Covering being taken off, and the Stone a little dried, this whole appear'd to be pierced with Porosities, which seem'd to have been the Receptacles of the foresaid Poile. There was no Mark on this Side of any Urine having passed.

A Pledget charged with Digestives, a Rag dipp'd in an Embrocation, and an emollient Cataplasm, were laid upon the Wound; the Patient was laid upon the Belly, his Breast being supported by one Bolster, and his Head by another.

*Saturday, 1st Day.* An Hour after he was let Blood 3 Porringers full.

He

He found himself a little out of Order after Bleeding, and had several *Nausea's*. I had a simple Cordial made for him with five Ounces of Balm-Water, one Ounce of Syrup of Barberries, and one Ounce of Syrup of Clove-july flowers ; of which he took several Spoons-full a Day, when his Spirits seem'd to fail him.

He sweated much all the Afternoon ; which made me defer bathing him till half an Hour after Seven ; his Pulse was short, quick, and strong : The first Hour he was in the Bath made no Alteration ; he was sick at Heart, and spit up a white Froth ; at last he fell asleep in the Bath for at least an Hour : His Pulse seem'd to be flower, and, coming out of the Bath, he found himself very well. He was dressed as before at 10 o' Clock, and laid upon the Belly. He slept best Part of the Night, which hindred his being blooded at 3 or 4 o' Clock, as I had order'd.

*May 19th, Sunday, 2d Day.]* At 8 o' Clock in the Morning I found him in a strong Fever. I had two Porringers of Blood taken from his Arm : The Bleeding made his Pulse short, low, and quick, and himself sick at Heart. His Pulse grew strong again, and the Fever came upon him. I designed to bathe him yet that Morning ; which should have been done if he had been blooded earlier ; but it was late ; and, besides, he had had no Stool. I therefore thought it necessary to give him an emollient and anodyne Clyster at 10 o' Clock. He was afterwards dress'd ; and I deferred his Bathing till 4 in the Afternoon : But the Clyster not being come from him, and the Boy complaining of a Pain in his Stomach, I order'd him

him to be put in the Bath from half an Hour past 11, till half an Hour past 1.

He found himself very well in the Bath; his Clyster there came from him, and he had a good Stool. He was put to Bed again at a Quarter past 1: There he had another Stool, and found himself very well; nevertheless he was yet very feverish.

He slept from half an Hour past 4 till half an Hour past 6; after which his Fever was almost half gone.

He was put into the Bath again at half an Hour past 7 in the Evening. He desired it himself; partly on account of the Ease which it had hitherto given him; partly because the Situation of lying on his Back, and sitting in the Bath, was an agreeable Change from that of lying on his Belly; which he was oblig'd to do in his Bed. His Pulse was very well in the Bath; his Look and Eyes were more clear than in the preceding Bathings; and indeed he neither had any Pain in his Belly, nor at his Stomach, nor in his Breast, nor in his Head; the Wound only smarted now-and-then; he could not bear being touch'd about it; however his Belly was very flat, and he began to be hungry.

He staid an Hour and half in the Bath, and slept good Part of the Night and Morning.

*Monday, May 20th, 3d Day.]* He did not wake till 8 o'Clock: He had hardly any Fever at all, and he found himself much better than the Day before.

I order'd another Clyster to be given him, on account of the Benefit which he had received from it the Day before, and because he had not been at Stool since. It made him sick at Stomach again, and did not come from him.

I had

I had him put into the Bath at 9 o' Clock. Part of his Clyster came from him there an Hour and half after. At every Bathing I order'd a Spoonful of Cordial to be given him at going in, and towards the Middle of the Bath a Mess of Broth, or 2 half Messes. He came out at the End of two Hours.

After this fourth Bathing he found himself almost without any Fever; and was so well, that he teiz'd us and the Nurses for something to eat. This determined me to let the Suppuration quietly fix itself; which seem'd already to begin at the Wound of the Teguments. He made Water this Day once or twice through the *Penis*.

*Tuesday, May 21st, 4th Day.]* In the Morning he was without a Fever; and the Distemper which he complain'd of most was Hunger. I then set out for *Rouen*.

The Patient continued to grow better every Day. I returned the 10th Day, to prescribe him a less strict Diet.

The *Cicatrix* of the Bladder had form'd itself on the 20th. That Day no Urine at all passed any more through the Wound of the Belly, a large Bandage was laid over the Wound, and he was sometimes put on his Back; especially after he began to make Water through the *Penis*.

The Wound of the Teguments was intirely cicatrized on the 40th Day; and he was so well, that he came to see me at *Rouen* on the 50th Day. He was grown so fat, that I hardly knew him again.

### *Explanation of the Figures. TAB. II.*

*Fig. 1.* represents the anterior and upper Side of the Stone.

A a

*Fig.*

*Fig. 2.* the posterior and under Side, which rested partly upon the *Prostate*. This Side of the Stone was attach'd to the Bladder.

*a.* the Place where the Body of the Bladder was contracted in Form of the Neck of a Gourd.

*b.* the Extremity, which was lodged in the Beginning of the *Urethra*.

*c.* the Impression made by the Nail of the Forefinger of my left Hand, in passing it between the Stone and the Inside of the Bladder, in order to detach them from each other, and to dilate the Bladder sufficiently to introduce the Crochet.

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## II. *The Description of an Hygrometer made of a Deal Rod: Being Part of Two Letters from Mr. William Arderon, F.R.S. to Mr. Henry Baker, Fellow of the said Society.*

S I R,

\* \* \*

Read May 8.  
1746. IN October last I contrived and made  
an Hygrometer; the first Hint whereof  
I received from Observations on the Swelling of Deal  
Doors against Rain.

I perceived this Wood expanded itself very considerably, laterally, or across its Grain: And this I imagined, if properly made use of, might shew, not badly, the different Degrees of Moisture or Dryness in the Air.

These Thoughts set me upon searching the *Philosophical Transactions* (as I do most commonly, when I take